

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/782,201

**REMARKS**

Claims 1-5 and 7 are all the claims pending in the application.

***Summary of the Office Action***

Claim 7 is objected to under 37 C.F.R. § 1.75(c) as being in improper form and has not been treated on the merits. To obviate the objection to claim 7 Applicant has amended the claim as indicated above.

Claims 1, 2, 4, and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu et al. (USP 5,493,430) in view of newly cited Ono (USP 6,335,774) and newly cited JP 56-168634 (JP '634).

Claims 3 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu et al. (USP 5,493,430) in view of newly cited Ono (USP 6,335,774) and newly cited JP 56-168634 (JP '634), and further in view of Fukuchi et al. (USP 5,645,901). For the reasons set forth below, Applicant respectfully traverses the claim rejections and requests favorable disposition of the application.

***Argument***

Claim 1 is directed to a liquid-crystal display device comprising a liquid-crystal panel. The panel includes a backside substrate, a visual side substrate and a reflection type liquid-crystal layer between the visual side and backside substrates. The backside substrate has a colored resin substrate. The structure of the visual and backside substrates allows for the successful use of the reflection type liquid-crystal layer, which provides a thinner and more lightweight device than in the prior art. Contrary to the assertions of the examiner, the asserted

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/782,201

combination of references fails to disclose the recited colored resin substrate which forms a back side substrate.

Lu et al. (USP 5,493,430) discloses a colored layer 18 formed on the inside of the substrate 12. Ono (USP 6,335,774) discloses color filter films 15 and 16 on substrates 1 and 2. JP '634 discloses a substrate 3 with a complementary color (e.g., green) to the hue (e.g., red) of the color polarizing element 1. This substrate 3 with a complementary color is disposed separately on one side of the liquid crystal cell 5 including a transparent substrate 6 as shown in Fig. 4. That is, the substrate 3 with a complementary color is assembled into a color compensation polarizer 4 shown in Fig. 1, and this polarizer 4 is disposed on the cell 5 as shown in Fig. 5. In other words, the substrate 3 with a complementary color is separate and different from the transparent substrate 6 constituting a cell. The substrate 3 cancels the adverse hue of the color polarizing element 1, which possibly constitutes parts other than the displaying section (i.e., voltage-applied part in the cell).

Therefore, all of the asserted references disclose a colored layer provided separately from the substrate constituting a liquid crystal cell. This concept is totally different from the claimed invention of claim 1 where the substrate itself of the cell is colored. Furthermore, the cited references never intend the effect of the present invention, for example, reduction of the number of the parts, reduction of the thickness, etc. (See par. [0006] in the present specification).

In addition, the colored back substrate according to the invention functions as a light absorption member for its own coloring. However, such function cannot be effected by the thin colored layer of Lu et al. There is no specific disclosed thickness of the film in Lu et al., but it is

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/782,201

likely to be quite thin since the colored layer 18 is provided inside of the cell. Further, color filter film and the colored substrate in Ono and JP '634 function to *transmit* light and never intend to *absorb* light. Thus, no motivation can be found to achieve the claimed invention where the cell substrate itself is colored to achieve both the thickness reduction and the light absorption function. For at least the reasons set forth above, the rejection of claims 1 and 2, and all claims dependent thereon, should be withdrawn.

Moreover, the prior art rejection asserts that it would have been obvious to employ a colored resin substrate in Lu, instead of the painted layer 19, in order to reduce thickness, weight and manufacturing costs of the LCD device. Specifically, it is asserted that JP '634 discloses that "it is known to employ a colored resin substrate which is formed of a transparent resin and a colorant" and that a skilled artisan would have obviously substituted the colored resin substrate of JP '634 for the color imparting layer and substrate in Lu in order to reduce thickness, weight and manufacturing costs. However, there is no motivation to form the backside substrate of Lu with the colored resin substrate. One would merely have been motivated to replace the painted layer on the surface of the backside substrate with a colored resin substrate. Still further, such a modification would not actually reduce weight, so there would not have been any motivation to provide this resin substrate at all.

In view of the foregoing, Applicant submits that it would not have been obvious to combine the prior art of record to arrive at the claimed invention wherein a backside substrate is constituted by a colored resin substrate and electrode.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/782,201

In regard to the objection of claim 2, Applicant submits that even though the visual side substrate is not recited as an element of the colored resin substrate, it is appropriate to claim that the colored resin substrate is attached to the visual side substrate. Nonetheless, Applicant has amended claim 2 to clarify the structure of the present invention as noted above.

Additionally, Applicant submits that claim 2 is patentable for similar reasons to claim 1, discussed above. Namely, one would not have been motivated to modify Lu to have a colored resin substrate instead of the painted layer because there is no motivation to do so. The motivation of providing a lighter weight device does not correlate with substituting the painted layer with the colored resin substrate, i.e., there is no teaching that the resin would make the device lighter than if the paint were used. Also, there is no motivation to form a backside substrate with the recited elements of claim 2. Rather, one would merely be motivated to provide a colored resin substrate on the back side substrate, but not as an element of the back side substrate. For this additional reason, the rejection of claims 1 and 2 and all claims dependent thereon should be withdrawn.

***Patentability of New Claim***

For additional claim coverage merited by the scope of the invention, Applicant has added new claim 8. Applicant submits that the prior art does not disclose, teach, or suggest the combination of features contained therein.

**Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/782,201

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
\_\_\_\_\_  
Kevin M. Barner  
Registration No. 46,075

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE  
23373  
CUSTOMER NUMBER

Date: September 8, 2003

Attorney Docket No.: Q63077